

REMARKS

The amendments to the specification and abstract indicated above correct translation errors that occurred when the document was originally translated from French to English. Support for these amendments may be found in the priority document.

§ 102 Rejection

The Patent Office rejected claims 27, 28, 33, 34, 38 – 40, 42, 44, 47 – 50, and 53 – 55 under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 5,607,593 (hereinafter Cote). Applicant amended independent claim 27 and independent claim 50. Claims 27 and 50 and their corresponding dependent claims are not anticipated by Cote.

Applicants amended claim 27 to clarify that the method includes “recirculating at least a portion of the oxidizing gas from the reactor, through a gas recirculation loop and back into the reactor.” Support for this amendment is found in Applicants’ specification at least on page 13. Further, as shown in Fig. 1, vent 5 evacuates the oxidizing gases, which are then recirculated through recirculation loop 6 back into the reactor. Cote does not disclose recirculating oxidizing gas. In fact, Cote states that after ozone is injected and rises through the water in the reactor, a hood or “thermal destructor” removes the residual ozone. See Cote, col. 9, ll. 3-5 and col. 13, ll. 1-3. Nothing in Cote discloses that the gas is ever recirculated back into the reactor. For at least this reason, Cote does not anticipate claim 27.

In addition, Applicants amended claim 27 to require the method to include “bypassing the immersed membrane filtration unit with at least a second portion of the treated water such that the second portion of the treated water is non-permeated treated water” and “recirculating at least a portion of the non-permeated treated water stream from the reactor, through a recirculation line and back into the reactor.” Support for this amendment is found at least in Applicants’ specification at least on page 10 and in Fig. 1. This amendment clarifies that after the influent is treated in the bed of catalyst material a portion of the treated water does not pass through the immersed membrane, but rather bypasses the immersed membrane. The treated water that bypasses the immersed membrane is referred to as non-permeated treated water. Thus, non-permeated treated water has passed through the bed of catalyst material, but has not passed through the membrane filtration system. Claim 27 requires recirculating the non-permeated treated water – water that has been treated with the catalyst, but has not passed through the membrane filtration system – from the reactor, into a recirculation line and back into the reactor.

Cote does not disclose bypassing the immersed membrane filtration unit with at least a portion of the treated water or recirculating non-permeated treated water. As shown in Fig.1 of Cote, raw water enters and remains in the treatment zone until it passes through the filtration system. None of the water bypasses the filtration system. Only after passing through the filtration system, can the water leave the treatment zone. Moreover, non-permeated treated water – water that has been treated with the catalyst, but has not passed through the filtration system - never leaves the treatment zone, and thus, is not recirculated through a recirculation line and back into the reactor. Indeed,

Cote only discloses recirculating water that has passed through the filtration system.

After passing through filtration system, filtered water passes into the lower chamber and is then pumped into storage container, where it may be recirculated into the lower chamber for backwashing. Since Cote does not describe bypassing the immersed membrane filtration unit with at least a portion of the treated water or recirculating non-permeated treated water back into the reactor, Cote cannot anticipate claim 27.

Similarly, claim 50 is not anticipated by Cote. Claim 50 includes an oxidizing gas recirculation loop extending exteriorly of the reactor for recirculating an oxidizing gas. Cote does not disclose a recirculation loop for recirculating an oxidizing gas back into the reactor. As previously discussed, a hood or "thermal destructor" removes residual ozone from the reactor. See Cote, col. 9, ll. 3-5 and col. 13, ll. 1-3. Nothing in Cote discloses the oxidizing gas is ever recirculated back into the reactor. For at least this reason, Cote does not anticipate claim 50.

In addition, claim 50 includes a recirculation line extending exteriorly of the reactor for directing a non-permeated treated water stream from the reactor, through the recirculation line and back into the reactor. As previously discussed, non-permeated treated water is water that has been treated with the bed of catalyst material, but has not passed through the membrane filtration system. Cotes does not disclose a recirculation line for recirculating non-permeated treated water. Again, Fig. 1 of Cotes shows that the all of the water remains in the treatment zone until it passes through the filtration system. Non-permeated treated water never leaves the treatment zone and thus, cannot be recirculated back into the reactor. Since Cote does not describe a

recirculation line for recirculating non-permeated treated water back into the reactor, Cote cannot anticipate claim 50.

For at least the above reasons, the claims 27 and 50, and their corresponding dependent claims are not anticipated by the cited prior art and are in condition for allowance.

§ 103 Rejection

The Patent Office rejected claims 29 – 32, 35 – 37, 41, 43, 45 – 46, 51 – 52, and 56 – 57 over Cote in view of various secondary references. Claim 43 has been canceled and its subject matter has been included in independent claim 27. Claims 51 and 52 have been canceled and their subject matter has been included in independent claim 50.

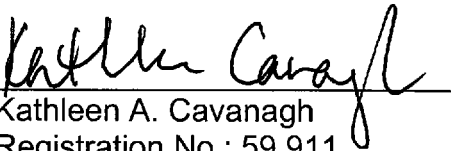
None of the cited references disclose or suggest all the limitations required in independent claims 27 and 50. For example, claim 27 requires recirculating at least a portion of the non-permeated treated water from the reactor, through a recirculation line and back into the reactor. Similarly, claim 50 requires a recirculation line extending exteriorly of the reactor for directing a non-permeated treated water stream from the reactor, through the recirculation line and back into the reactor. None of the cited references disclose or suggest recirculating non-permeated treated water – water that has been treated with the catalyst, but has not passed through the filtration unit – from the reactor, through a recirculation line and back into the reactor. Similarly, none of the cited references disclose or suggest a providing a recirculation line to direct a non-permeated treated water stream from the reactor, through the recirculation line and

back into the reactor. Thus, none of the claims are rendered obvious by the cited references.

For at least the above reasons, the claims 27 and 50, and their corresponding dependent claims are not rendered obvious by the cited prior art and are in condition for allowance.

Respectfully submitted,

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